

What is claimed is:

1 1. A method for use in communications involving a first terminal that is
2 coupled to one side of a firewall and network address translator, the method comprising:
3 sending, by the first terminal, a message identifying the first terminal to a
4 node on another side of the firewall and network address translator;
5 receiving, by the first terminal, another message from the node, wherein
6 the messages between the first terminal and the node causes creation of a path through
7 the firewall and network address translator; and
8 repeatedly sending keep-alive messages to maintain the path through the
9 firewall and network address translator.

1 2. The method of claim 1, further comprising receiving a call request, by the
2 first terminal, from the node over the path maintained through the firewall and network
3 address translator.

1 3. The method of claim 1, wherein repeatedly sending the keep-alive
2 messages is based on a timer in the first terminal.

1 4. The method of claim 1, wherein sending the identifying message
2 comprises sending a registration message to register the first terminal with the node.

1 5. The method of claim 4, wherein sending the registration message
2 comprises sending a Session Initiation Protocol REGISTER message.

1 6. The method of claim 5, wherein sending the registration message
2 comprises sending the registration message to a Session Initiation Protocol proxy, the
3 node comprising the Session Initiation Protocol proxy.

1 7. The method of claim 1, further comprising exchanging messages, by the
2 first terminal, with the node over the path maintained through the firewall and network
3 address translator to establish a call session.

1 8. A system for use in communications between a first terminal and a second
2 terminal, the first terminal coupled to a remote network address translator, the system
3 comprising:

4 a storage module to store network address translation information for the
5 first terminal; and

6 a controller adapted to partially create the network address translation
7 information during setup of a communications session between the first and second
8 terminals and to wait for a media packet originated by the first terminal after the
9 communications session has been set up to complete the network address translation
10 information.

1 9. The system of claim 8, wherein the media packet contains a source
2 address, the source address comprising a public address that is allocated to the first
3 terminal by the remote network address translator.

1 10. The system of claim 9, wherein the public address of the first terminal is
2 unknown to the controller until after the media packet has been received.

1 11. The system of claim 10, wherein the controller is adapted to further
2 exchange control packets with a device containing the remote network address translator
3 to set up the communications session between the first and second terminals.

1 12. The system of claim 11, wherein at least one of the control packets from
2 the device contains an identifier to identify a private address of the first terminal that is to
3 be used for communications of media packets.

1 13. The system of claim 12, wherein the controller is adapted to ignore the
2 private address of the first terminal for communicating media packets between the first
3 and second terminals.

1 14. The system of claim 11, wherein the control packets comprise Session
2 Initiation Protocol control packets.

1 15. The system of claim 14, wherein the media packet contain Real-Time
2 Protocol data.

1 16. The system of claim 14, wherein the media packet contains at least one of
2 the following types of data: file transfer data, interactive electronic gaming data, and
3 whiteboarding data.

1 17. The system of claim 8, wherein the network address translation
2 information comprises information to map a network address of the first terminal to an
3 alias address of the first terminal.

1 18. The system of claim 17, wherein the network address translation
2 information further comprises information to map a network address of the second
3 terminal to an alias address of the second terminal.

4 19. The system of claim 17, wherein the controller is adapted to transmit
5 media packets originated by the first terminal to the second terminal, each media packet
6 containing the first terminal alias address as a source address.

1 20. The system of claim 8, wherein the controller comprises plural modules,
2 the plural modules comprising a first module adapted to exchange call control signaling
3 and a second module adapted to exchange media packets between the first and second
4 terminals.

1 21. An article comprising at least one storage medium containing instructions
2 for establishing communications between a first terminal and a second terminal, the
3 instructions when executed causing a system to:

4 store network address translation information for the first terminal that
5 resides behind a remote network address translator;

6 partially create the network address translation information during setup of
7 a communications session between the first terminal and the second terminal; and

8 wait for a media packet originated by the first terminal after the
9 communications session has been set up to complete the network address translation
10 information.

1 22. The article of claim 21, wherein the instructions when executed cause the
2 system to store network address translation information containing fields to map an
3 address of the first terminal to a first alias address and to map an address of the second
4 terminal to a second alias address.

1 23. The article of claim 22, wherein the instructions when executed cause the
2 system to further:

3 communicate, through the system, media packets between the first and
4 second terminals, each media packet containing a source address and a destination
5 address; and

6 translate, for each media packet, both the source and destination addresses.

1 24. The article of claim 21, wherein the media packet from the first terminal
2 contains a source address, the source address comprising a public address that is allocated
3 to the first terminal by the remote network address translator, the public address of the
4 first terminal being unknown to the system until after the media packet has been received.

1 25. A device capable of being used in communications through a firewall and
2 network address translator, the device comprising:

3 an interface adapted to exchange messages with a node on another side of
4 the firewall and network address translator, the exchange of messages with the node to
5 create a path through the firewall and network address translator; and

6 a controller adapted to repeatedly send keep-alive messages to maintain
7 the path through the firewall and network address translator.

1 26. The device of claim 25, further comprising a timer to determine timing of
2 the keep-alive messages.

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